DOCUMENT RESUME

ED 452 980 PS 029 470

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TITLE A Book a Day Keeps the Doctor Away: A Look at the Implementation and Effects of Reach Out and Read, a Pediatric Clinic-Based Early Literacy Promotion Program.

SPONS AGENCY David and Lucile Packard Foundation, Los Altos, CA.
PUB DATE 2000-09-00
NOTE 46p.; Study supported by the Lucille Packard Foundation for Children's Health. J. Evelyn Orr was supported by the Stanford Graduate Fellowship Program.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Beliefs; Caregiver Child Relationship; *Child Caregivers; Comparative Analysis; Definitions; *Emergent Literacy; Mothers; Parent Attitudes; Parent Child Relationship; *Parents; Physician Patient Relationship; *Physicians; Preschool Children; Preschool Education; Program Evaluation; Young Children
IDENTIFIERS Caregiver Attitudes; Physician Attitudes; Physician Role

ABSTRACT

This study examined the effects of a pediatric clinic-based intervention program, Reach Out and Read (ROR), on the literacy beliefs and behaviors of caretakers of children ages 9 months to 5 years. Doctors' beliefs about literacy and parent behavior were also examined. Data were collected through structured interviews conducted with 22 caregivers and 5 doctors at the ROR clinic and with 15 caregivers and 2 doctors at 2 non-ROR clinics. At least 85 percent of the caregivers were the mothers of the children involved. Findings suggested that ROR caregivers accepted an expanded definition of the patient/doctor social contract, one that included doctors giving advice about literacy practices, and that ROR caregivers were more likely than non-ROR caregivers to name doctors as a source of information about literacy. Doctors and caregivers had different ideas of what constituted literacy, but had similar ideas about parent responsibilities with regard to literacy. Findings also revealed inconsistencies in doctors' literacy knowledge, awareness of parent practices, and implementation of the program. (Contains 15 references.) (Author/KB)

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A Book a Day Keeps the Doctor Away:

A Look at the Implementation and Effects of Reach Out and Read,

a Pediatric Clinic-Based Early Literacy Promotion Program

J. Evelyn Orr, Sue Baker, Elsa Schirling, Lee Sanders, Lynne Huffman, and Fernando Mendoza

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This study was supported in part by a grant from Lucille Packard Foundation for Children's Health. J. Evelyn Orr was supported by the Stanford Graduate Fellowship Program.

I thank Kenji Hakuta for his involvement in the project and for his comments on drafts of this paper. I thank Guadalupe Valdés for her contributions in the early phases of this project. I also thank the families who participated in the study.

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Abstract

The authors examined the effects of the clinic-based literacy intervention program Reach Out and Read (ROR) on the literacy beliefs and behaviors of caretakers of children ages 9 to 60 months. Doctors' beliefs about literacy and parent behavior were also examined. Structured interviews were conducted with 22 caretakers and 5 doctors at the ROR clinic, and 15 caretakers and 2 doctors at the two Non-ROR clinics. Results suggest that ROR caretakers accepted an expanded definition of the patient/doctor social contract, one that included doctors giving advice about literacy practices, and that ROR caretakers were more likely than Non-ROR caretakers to name doctors as a source of information about literacy. Doctors and caretakers had differing ideas of what constituted literacy, but similar ideas about parent responsibilities in regards to literacy. Results also revealed inconsistencies in doctors' literacy knowledge, awareness of parent practices, and implementation of the program.

Introduction

Reach Out and Read (ROR)/Vamos a Leer is a program inspired by Dr. Robert Needlman's initiative in Boston in 1989 to "prescribe books to underprivileged children"(Fitzgerald & Needlman, 1991). The ROR program is clinic based and has multiple components, including 1) training doctors during a brief annual training session to provide information about literacy to caretakers during well child visits, and 2) during each well child visit the provision of one free book to each patient, and anticipatory guidance to caretakers about encouraging literacy practices at home. Most materials are provided either in Spanish or English or both. Pediatric clinic-based programs to promote literacy through the distribution of free children's books, frequently identified with the name Reach Out and Read (ROR), are now active in 400 sites nationwide.

The importance of helping parents to develop the emergent literacy skills of their children for enhancing school readiness and bolstering later academic achievement is well documented in research literature (Valdez-Menacha & Whitehurst, 1992; Whitehurst, Falco, Lonigan, & al., 1988). According to the U.S. Department of Education, emergent literacy is a dimension of development that is extremely important to a child's early learning, and is the principal indicator of readiness for kindergarten ((NCES), 1995). McCormick and Mason (1986) found that children who are given books before kindergarten are more successful in first grade (McCormick & Mason, 1986). Research has also shown that children whose parents begin reading to them consistently at an early age are more likely to succeed in school (Valdez-Menacha & Whitehurst, 1992; Whitehurst et al., 1988). Reading activities between parents and children are believed to engender more cognitively challenging dialogue that in turn contributes greatly to the intellectual

growth of young children. Research indicates that low-income Latino parents, a population particularly targeted by many ROR programs, are highly motivated to help their children learn to read, and that once they are afforded access to literacy materials and information, the parents contribute significantly to their children's literacy growth (Neuman, 1996). A recent National Research Council report also showed that families who understand the importance of bolstering the literacy skills of their children and who are provided with the means to do so (i.e. books and techniques) will be more likely to engage in effective literacy activities (Snow, Burns, & Griffin, 1998). Therefore, the significant disparity between low and middle income families' access to reading materials, coupled with the low participation rates of low-income children in quality early education programs can have dire consequences for the school readiness and later education attainment of low-income children.

Given the importance of pre-literacy skills for kindergarten readiness, the low levels of literacy in the low-income Latino community, and the positive effects of providing materials and information about literacy to low-income Latino parents, it is crucial to increase our understanding of programs such as ROR. All previous studies of clinic-based literacy promotion have focused on a single measure of parent report: the reported frequency of book sharing. In three studies, parents whose children were given books by their pediatricians were significantly more likely to report positive book-sharing behaviors than parents in control groups (Golova, Alario, Vivier, Rodriguez, & High, 1999; High, Hopmann, LaGasse, & Linn, 1998; Needlman, Fired, Morley, Taylor, & Suckerman, 1991).

In order to further explore the effects of the Reach Out and Read program, we conducted a cross-sectional, quasi-experimental study of low income families at three local clinics. Extensive interviews consisting of open-ended as well as scaled questions were conducted with

parents of children between 9 and 60 months attending a well child check and with several of the doctors who conducted these well child checks. Children over the age of 2 years 10 months were administered a standardized emergent literacy measure in their native language. This study contributes to the limited knowledge base on how these programs affect the type and quality of literacy sharing activities in the home, and how pre-school literacy promotion at early ages impacts school readiness. Additionally, this study expands our knowledge of the factors that influence ROR's success, such as parent understanding of, attitudes toward, and behavioral response to literacy related messages associated with their visits to the clinic, the effect of ROR on children's emergent literacy skills and behaviors, and parent and pediatricians' conceptualization of the doctor-patient social contract, particularly whether the social contract is expanded to include literacy issues within the realm of a doctor's care. By enhancing our understanding of these factors, we hope to contribute to the gap in research and improve ROR's efficacy at bolstering children's school readiness, thereby better serving our growing Latino and immigrant populations.

Method

We conducted a cross-sectional, quasi-experimental study to evaluate the effects of a clinic-based literacy promoting intervention delivered to low-income caretakers of children participating in well child visits. Three clinics were identified, one participating in the ROR program, and two that did not. All three clinics serve mostly a low-income multiracial population that was over 50% Latino. Most families using the clinic were eligible for Medicare. The clinic implementing the ROR program is part of a teaching hospital. Between June, 1999 and January, 2000 we interviewed: 1) 22 caretakers and 5 doctors using well child clinics that

participated in the ROR (Reach Out and Read) program, and 2) 15 caretakers and 2 doctors in clinics that did not participate in ROR. Interviews were audiotaped, transcribed, and coded for analysis.

Families were eligible to participate in the study if: 1) the family was eligible for Medicare, 2) the child had missed no more than two well- child visits, and 3) the child age was a) between nine and thirteen months, b) between two years and ten months and three years and two months, or c) between four and five years old. These ages were chosen in order to sample across the age groups that are receiving the intervention.

The caretakers of eligible patients were approached by the interviewers in the waiting room and asked to participate in a forty five minute interview after the well child visit. Caretakers were paid $15 for their participation. Approximately 30% of the families agreed to be interviewed, and the most frequent reason given for refusal to participate was lack of time. Caretakers were interviewed in English or Spanish by five different bilingual interviewers, all of whom were native English speakers and who spoke Spanish as a second language. Three of the interviewers were Anglo-American and two were Mexican-American. Eighty-five percent of the interviews were conducted by three of the interviewers, two of whom were Anglo-American and one of whom was Mexican American. Approximately 75% of the interviews were conducted in Spanish per parent preference.

Before the interview, in a scripted speech, the interviewers told the caretakers that they were conducting the interviews in order to find out about the relationship between well child visits and literacy in the family. After obtaining informed consent in either English or Spanish, a bilingual research assistant conducted a 60 item structured interview. The interview was conducted face to face and focused on demographics, children's play activities, parents'

knowledge and attitudes about literacy, literacy practices at home, and beliefs about the patient-doctor relationship.

The interviewers approached the doctors after ascertaining that he or she had been the doctor for an eligible patient whose caretaker had agreed to participate in an interview. The doctors were not paid for their participation. As part of a scripted speech, the interviewers told the doctors that they wanted to interview them in order to find out about the relationship between well child visits and family literacy. Approximately 75% of the doctors agreed to be interviewed. Several of the doctors were unable to be interviewed the same day, and were interviewed up to five days after the targeted well child visit.

Results were analyzed in terms of frequency of types of responses and qualitative responses. Data for the ROR and Non-ROR parents is reported in percentages. For statistical comparisons of categorical responses between ROR and Non-ROR parents, Pearson's chi square value and significance level are reported as well as Phi, in order to show the magnitude of the effect. For continuous data, ANOVAs were conducted on SPSS 10.0. For doctors, results are reported as raw frequencies out of the total N (e.g. 2 out of 5; 2/5) and as qualitative responses. The low N for ROR and Non-ROR doctors prohibits any statistical comparison between groups or with parents.

Results

Participant Characteristics

Parents.

ROR and Non-ROR parent participants in the study were similar with regard to relationship to child, years of education, other training outside of school, and self-rated reading and writing ability in their dominant language.

Insert Table 1 about here

When asked to identify their country of origin, ROR and Non-ROR parent responses included Mexico (ROR=68%, Non -ROR=87%), the United States (ROR=26%, NON-ROR=7%), Nicaragua (ROR=5%), and El Salvador (Non-ROR=7%). Of the 29 parents who were from a country of origin other than the U.S., 23 had come to the U.S. less than ten years ago, and reported they did/did not visit their country of origin often. Most ROR and Non-ROR parents had attended school in their country of origin (ROR=42%, Non-ROR=67%), fewer had attended school in both the U.S. and their country of origin (ROR=26%, Non-ROR=27%).

Doctors

Participating Non-ROR clinic doctors were practicing doctors. Doctors at the ROR clinic were student doctors in their residency. All doctors mentioned being able to speak some Spanish. When asked to identify their racial/ethnic background, one ROR doctor identified herself as Mexican American, and one Non-ROR doctor identified himself as Jewish/Caucasian. All other doctors identified themselves as Caucasian.

Do parents and doctors perceive doctors to have authority in the area of literacy?

Parents' Perspective.

Some parents did not expect doctors to talk about reading, but subscribed to the traditional view of the patient/doctor social contract that maintains that doctors have authority to

give advice about physical health issues but not much beyond that. One ROR parent said, "He told me today to spend ten to fifteen minutes with my kids letting the kids hold the book, and to read it even though they don't understand it. I was surprised, I thought this would be for medical, not for literature." However, most parents at the ROR clinic have come to expect the doctor to talk about reading. When parents said that they expected the doctor to talk about reading we interpreted that to mean that they thought that the doctor had authority to talk about reading. As shown in Table 2, differences in ROR and Non-ROR parents' expectations of the doctor to give advice about reading were very different from expectations that doctors would give advice about nutrition.

Insert Table 2 about here

In addition to the fact that ROR parents expect the doctor to give advice about reading, they believe that it is ok for doctors to impart reading advice to parents, as shown in Table 3. We interpret this to mean that there exists an expanded social contract between ROR parents and doctors.

Insert Table 3 about here

One ROR parent explained, "I think they can tell us, since they're taking care of the children, not just the teachers." The ROR program also appeared to change parent ideas about the

doctor/patient contract in some cases. For instance, one parent stated, "That was what I thought too [that they should leave reading up to parents and teachers], but now I have found the opposite, I think it's really good that the doctors guide us toward reading to them [our children]."

Doctors' perspective.

Doctors in the Reach Out and Read clinic stated that the majority of their knowledge base on literacy comes from personal experience and instinct. When asked about the knowledge base doctors bring to giving advice about literacy one doctor stated, "Not much, it's more like personal experience, not research or reading…instinct." Another said, "I don't think I'm that knowledgeable." When asked about the impact of ROR training, 2 out of 5 doctors reported that they had not received any training. The doctors who did say that they based much of their knowledge of literacy on ROR training also reported that the knowledge they acquired from the ROR training was not different from their prior knowledge on literacy. ROR doctors as well as Non-ROR doctors indicated that they would like to have more training or information on literacy including "any kind of studies that have been done…we need more information than just it's quality time. How do kids do better because of early reading?" Another ROR doctor said, "I would like to know if what I'm telling parents is right…about the different developmental levels, milestones, appropriateness of books, reading and language intervention. I tell parents based on my own knowledge base, but I don't know if it's correct." However, despite their lack of knowledge of the research on literacy, doctors did recognize their unique position to impart literacy advice to parents of young children. Generally, they did not think that the Reach Out and Read program could be done in another format, at another time, or with someone else and instead affirmed the ROR program format. Two doctors suggested that the literacy message is more valued coming from the child's doctor than from a social worker or counselor, for example. Two

other doctors mentioned that schools would be a great venue for this also and appreciated the possible overlap between advice given in health care and the schools. One stated, "Classrooms are also great; this is ideal too, it confirms to the parents the importance, backing up the teachers."

Parents' and Doctors' perspectives on Messages Sent and Messages Received About Literacy

Parents' perspectives.

Parents were asked to identify the most important areas of advice doctors had just mentioned in the visit. Responses were similar for ROR and Non-ROR parents except in the case of literacy when ROR parents were more likely to name reading as an important area of advice just mentioned by their doctor, as Table 4 shows.

Insert Table 4 about here

Both ROR and Non-ROR parents said that teachers were a source of information about literacy. However, Table 5 shows that ROR parents were much more likely to name the doctor as a source of information on literacy.

Insert Table 5 about here

For some of the ROR parents, the doctors were a major source of information on literacy. For instance, one of the ROR parents said, "The doctors here are the ones who told us to read with

him. We started taking books out at the library and buying books at the bookstore, but everything started because of the doctor here."

Parents were asked what doctors told them about reading during their visits. As shown in Table 6, ROR parents were significantly more likely than Non-ROR parents to say that their doctors told them to read with kids as a habit. This is an important result because it shows that parents receiving the intervention are hearing the message about reading with their child. Non-ROR parents were significantly more likely to report that doctors mentioned nothing about reading during the visits.

Insert Table 6 about here

ROR parents reported a range of information and advice that the doctors had told them about reading including developmental information (ROR=20%), bilingual reading advice (ROR=10%), that parents can show the child pictures in books (ROR=15%), that reading is important (ROR=15%, Non-ROR=8%), that reading will make kids smarter (ROR=5%), that reading is better than TV (ROR=5%), and that reading teaches kids to talk (ROR=5%). One ROR parent said that her doctor had simply told her that, "It [reading] was important. They haven't gone into any detail about reading, just that I read to them. We haven't gone into anything in depth on that, probably we should have, but we haven't."

Doctors' perspectives.

Doctors were asked to identify the most important areas of advice they had given to the parent they just saw. Non-ROR doctors named health and nutrition, ROR doctors also named

these two categories and in addition: 3/5 mentioned safety, 1/5 mentioned development issues, 2/5 mentioned anticipatory guidance, and 2/5 mentioned reading. When asked if this advice differed from typical advice given to parents, 4/5 of ROR doctors and 2/2 of Non-ROR doctors said that it was not different.

ROR doctors reported that when they give the parents and patients the ROR books, the books are usually accompanied with some advice or suggestions from the doctor. 3/5 ROR doctors said that they suggest strategies for sharing books if the parent is not literate. One ROR doctor said, "If parents don't know how to read, they can make up a story to go with the picture. If there's an older child, they can read...that's good for both of them." 2/5 of ROR doctors give advice about when to start reading to a child and 2/5 give advice about the amount of time or how often parents should read with their child. One doctor said, "Spend some time with your child everyday, every night, at some time put your child on your lap, look through the book, look at the pictures. It's an important way for the child to get used to processing information, and to get used to handling books, that will set them up for reading." Other advice and suggestions that were mentioned include use the public library, have an older sibling read aloud to the child, make reading fun, limit other activities, have other books at home, advice on how to read to the child, and what behavior to expect at different ages, and ideas for literacy activities at different ages.

Parents' and Doctors' Ideas about Literacy

Parents and doctors were presented with cards showing six different literacy activities (know the sounds of the letters, know the alphabet, play with books, be read to, memorize stories, and recognize words in books; in that order). They were then asked to identify what they considered to be the most important literacy activity for a child who is learning to read. Doctors

and parents differed in their ideas about what constitutes the most important literacy activity for nonreaders: 'Know the alphabet' was the most frequent response for both ROR parents (55%) and Non-ROR parents (36%), while doctors tended to choose 'being read to' as the most important literacy activity (ROR=2/5, Non-ROR=2/2) as well as 'know the sounds of the letters (ROR=2/5).

Parents and doctors had many ideas about what literacy skills a child needs upon entering kindergarten. Two ROR doctors said that literacy skills are helpful but not necessary upon entering kindergarten. Table 7 shows the percentage of parents and the proportion of doctors for the particular skills that were mentioned. It is interesting to note that nearly 50% of ROR parents mentioned social/communication and other oral language skills as important for a child who is entering kindergarten. Being aware of what parents already consider to be important can help doctors build on the values already held by the families participating in ROR.

Insert Table 7 about here

In order to understand parents' and doctors' frame of reference and personal experience with literacy we asked them where they learned to read (at school or home or both). Doctors and parents differed greatly in their literacy learning experiences. Of the doctors, 6/7 said that they learned to read at home and only 1/7 reported learning how to read at school, while most parents reported that they learned how to read at school (79%) and only 15% said they learned how to read at home (6% of parents said both school and home). However, this difference between doctors and parents was not reflected in a difference in opinion between doctors and parents

regarding whose responsibility it is to teach children how to read or how old children typically are when they learn how to read. Ratings of responsibility by ROR doctors (M= 3 4 , SD= .5477) and Non-ROR doctors (M= 3.5, SD= .7071) did not differ from each other and in comparison to the parent ratings leaned only slightly more toward assigning more responsibility to the family in teaching children to read when compared with parents' ratings. One ROR doctor gave a reason for ranking responsibility at 4 (partly the teacher's but mostly the family's responsibility), "The child is at home around the parents so much more and the parents can start so much earlier...and the children aren't going to school at 1 year of age when the parents have so much more opportunity to introduce them to books themselves." One Non-ROR doctor said, "4, in an ideal context. But families I see have poor literacy levels. I can't expect the parents to do it if they're not literate. Teachers have to bear a greater responsibility by necessity."

The estimated mean age children learn to read was not dramatically different for ROR parents (M= 5.15, SD= 1.81) and doctors (M= 5.29, SD= 1.50); while the average for Non-ROR parents was slightly higher (M= 5.79, SD= 1.17). Parents and doctors were asked to rank on a scale of 1-5 (1 being teacher, 5 being family, and 3 being equally both teacher and family) whose responsibility it is to teach children to read. There was very little difference between the ROR parents (M= 3.0 , SD= .4588) and Non-ROR parents (M= 3.13 , SD= .9155) ratings. One Non-ROR parent said, "When they're in school it's the teacher's responsibility but when they are at home it's the parents' responsibility to help them."

Parents were asked what parents need to do so that their children learn how to read. The three most frequent responses were read with them (ROR=78%, Non-ROR=47%), help them with letters (ROR=56%, Non-ROR=40%), and help them with sounds (ROR=33%, Non-ROR=20%). Less frequent responses included: get them interested in liking books, use books to

help them learn about things, teach them to pay attention, talk to them about education, show them how to put words together, show them how to write, spend time on literacy, and show them pictures. One ROR parent responded, "Read a lot of books to him, tell him to point out stuff in the book, familiarize him with words in the book, let him play with the book." Another ROR parent of a 1 year old said that to teach a child to read "sit with him at the table, with a book, and tell him, 'look at this word, and this one, you pronounce it like this *cuchillo, cu-chi-llo*'. When they [my two oldest boys] were little I taught them how to read." A Non-ROR parent responded, "Read to them, talk with them about education, show them how to write, read, tell them they need to study."

Doctors were also asked what the role of parents is in children's literacy development. Both of the Non-ROR doctors said that parents should be role models for reading, read to kids, have books in the house, and teach the letters. ROR doctors' responses were more varied than those of Non-ROR doctors. Two ROR doctors suggested that parents should provide encouragement and/or incentive in the area of reading. And the following were each mentioned by only one ROR doctor: parents should teach what they can, reinforce what's learned in school, tell stories from pictures, read to kids, expose kids to books early. One ROR doctor also mentioned that "there are children who learn to read whose parents don't know how to read, so it's not mandatory. It just sets up an environment where they're more likely to succeed and excel in the classroom with reading skills...an early start, a level of comfort and familiarity."

All parents (ROR and Non-ROR) stated that it is important for parents to read to their children and generated numerous reasons as to why it is important. ROR parents most frequently cited that it is important because children learn or get smarter when read to (ROR=56%) and that it helps them in school (ROR=22%). Non-ROR parents most often thought it was important

because the adult is a role model for reading (Non-ROR=21%), children learn to read (Non-ROR=21%), and children learn or get smarter (Non-ROR=21%). Small numbers of ROR and Non-ROR parents said that it is important for parents to read to their children because children learn oral language, it's bonding time, and it creates good habits. And a few ROR parents also said that when parents read to children, children feel supported, it is better than TV or playing, it helps children's imaginations, and children enjoy it.

Literacy in the Home

In order to understand the literacy environment in these families' homes, parents were asked about story telling to the child, interactions with books, types of reading material in the home, children's activities in the home, how many children's books are in the home, and how they acquired the children's books. Twenty-two percent of ROR and 20% of Non-ROR parents said that no one tells stories to the child. The remaining approximately 80% of ROR and Non-ROR parents said that a parent, a sibling, grandparent, or relative tells stories to the child. These stories were either invented, traditional, from familiar books, or some other oral language activity such as singing or reciting poems. When parents were asked if someone in the house ever gets a chance to read with their child 1 ROR parent and 1 Non-ROR parent said that no one gets a chance to read with their child. The remaining parents said someone did get a chance to read with their child and that person was the mother (ROR=84%, Non-ROR=73%), the father (ROR=42%, Non-ROR=27%), a sibling (ROR=5%, Non-ROR=7%), a grandparent (ROR=11%), or another relative (ROR=5%, Non-ROR=7%). Fifty-eight percent of ROR parents and 42% of Non-ROR parents said that someone reads to their child everyday or almost everyday. One Non-ROR parent who said that someone reads to her child everyday stated, "Yes, everyday, because the teacher at school said it was good to read to kids a lot." One ROR parents

stated, "They [the two daughters] try to read [books] because they know the drawings. I also read them, but not daily… Or they'll bring [the books] to me, they want me to tell them what they say."

Parents were asked what their child does when he/she is at home. As Table 8 shows, responses for ROR and Non-ROR parents were similar. However, ROR parents mentioned reading more frequently than Non-ROR parents as an activity their child does when he/she is at home (5 ROR parents are excluded due to missing data).

Insert Table 8 about here

When asked how their child interacts with books parents reported that their children rip them (ROR= 17%), throw them (ROR= 11%, Non-ROR=13%), put them in their mouth (ROR= 33%, Non-ROR=7%), play with them (ROR=11%), write/draw/color in coloring books (ROR= 6%, Non-ROR= 33%), write/draw/color in reading books (ROR= 11%, Non-ROR=13%), and have parents or others read the books to them (ROR= 33%, Non-ROR=20%). Answers varied widely according to the age of the child. One ROR parent said that when her child is at home he "plays, watches TV. I usually read to him at night. They told me here not to just read to them at night or they're going to think books are just for at night. Now when I take them to the library I read them a book."

Parents also reported that when their children interact with books they talk out loud or invent words (ROR= 17%, Non-ROR=13%), pretend or try to read (ROR= 17%, Non-ROR=13%), turn the pages (ROR=33%, Non-ROR=27%), trace words with their fingers (Non-

ROR=7%), point at pictures (ROR= 6%, Non-ROR=7%), and look at pictures (ROR= 50%, Non-ROR=27%). In response to what kinds of things her child does with books, one ROR parent reported, "He puts them in his mouth, he turns pages, I read to him, I point to the things in the book. If a dog comes up, I tell him it's a dog." A majority of parents also reported that their children read with other children (ROR=67%, Non-ROR=83%). Parents mentioned that their children read with siblings, relatives, friends, neighbors, and classmates or a library group.

Parents reported having a wide variety of reading materials in their homes. However, 16% of ROR parents said that ROR books were the only reading materials they have in their home. Table 9 shows that ROR parents were more likely to have children's books at home (3 ROR parents are excluded due to missing data).

Insert Table 9 about here

Parents acquired children's books from a variety of sources, but only ROR parents listed the doctor as a source for acquiring books.

Doctors were asked questions regarding their clients' literacy practices in the home in order to ascertain what assumptions and beliefs and information doctors are operating under as they interact with the parents and families of their patients. ROR doctors were asked the question "What do you think your client already knows about literacy?". Some of the doctors' responses were framed in a positive way: clients know it's important, that it's good, know how to implement it, know it's important for kids to be in school, and they read occasionally. Other impressions expressed by ROR doctors were phrased negatively although the question was

framed positively, and included: "I don't think they think about it a whole lot...I do have a few parents who know. Some parents don't have books at home, I don't assume they know anything." "I think if they're readers they have ideas, but they don't think in terms of literacy as a goal for education, it might just be an activity." "[It] varies. They all realize the importance of being literate, they know how to implement it, [but they] don't have enough time, it can be tough to fit in. I think it's one of those things that they'll depend on the schools."

Doctors were asked what more their clients need to know about literacy. ROR doctors mentioned that they need to know the importance of literacy, the importance of starting early, the impact it has on success in school and physical life, and how important it is to have lots of books at home. Non-ROR doctors also mentioned that their clients need to know the importance of starting early and added the need to emphasize scholastics, the need to expect children to be verbal, and that parents need information on how to help kids with literacy.

Doctors appeared to have formed opinions about their clients' literacy behaviors, despite the fact that they reported that most of their views were informed mostly by guesses or impressions. For instance, in response to the question "Do you think your clients approach literacy in the home?" a ROR doctor responded: "Some of them. I hope everyone, but I doubt that it's everyone, with time constraints and TV." Other ROR doctors stated, "I don't think they do. They rely a lot on TV and the preschools." "It varies. Through picture books, reading, older sibling who brings home books, extended family can help with that too." One Non-ROR doctor responded "Not much". The other Non-ROR doctor said, "I don't know. That's a good question."

For a more direct comparison between parent and doctor report on reading in the home, both doctors and parents were asked to rate on scale of 1-5 how often someone reads to the child.

Half of Non-ROR doctors and 4/5 ROR doctors reported that they based their rating on a guess or a general impression. Figure 1 illustrates the discrepancy between parent report and doctor impression.

Insert Figure 1 about here

How is ROR implemented? What impact does ROR have?

Book Distribution.

Some issues pertaining to the implementation and the impact of ROR have been addressed above in the discussion of the messages doctors say they are sending and what parents say they are hearing from doctors. Aside from conversation around literacy during the well child visit, giving parents and children a free book at every visit is a major feature of the ROR program. Ninety percent of ROR parents said that the reading they do with their child includes the ROR books they receive, other ROR parents said they had not yet received a ROR book. Twenty-eight percent of ROR parents report that siblings use the ROR books and 28% report that other relatives of the child use the ROR books. Seventy-eight percent of ROR parents said that the ROR books are stored somewhere where the children have access to them. These numbers suggest that the free ROR books, when they are received, are being used by children and integrated into family literacy activities.

Parents were asked to report how many well child check ups they had attended. There are 11 possible well child check ups in all ranging from 2 months to 5 years. Most parents reported that they had not missed any of the well child checks. The number of ROR books

parents reported to have received over all the visits did not always match the number of well child checks that they had attended. By the 1 year well child check, parents should have received 4-5 ROR books. However, of the parents of 1 year olds who said they had attended all well child checks to date, one parent said they had received 0 ROR books, one parent said they had received 1 ROR book, and 2 parents said they had received 2 ROR books. By the 5 year well child check parents should have received 11 ROR books. However, two parents of 5 year olds who reported attending all well child checks, said that they had only received 2 ROR books.

Doctors expressed some concern regarding the distribution of books due to time constraint and the number of areas they needed to cover during well child check ups. While doctors did not always hand out the books early in the visit, which was recommended in ROR training, 3/5 ROR doctors reported giving out the books in the beginning of the visits. One doctor said that this allowed her to observe the family's and the child's interaction around the book.

At most ages, doctors at the ROR clinic studied can choose to give families a book in Spanish or English. Availability of bilingual books varies according to child age and book supply. At the clinic studied, Spanish/English bilingual books were only available for a couple of age groups. Three out of five ROR doctors said that they chose the language of the book given to the family based on the language used during the well child visit and 2/5 doctors asked the child's mother what language she would prefer.

When asked what language they want their children to read in a majority of parents reported English (ROR=95%, Non-ROR=92%) and Spanish (ROR=84%, Non-ROR=85%). Regarding the preferred languages for the books their children receive, most parents said that they would prefer to receive Spanish/English bilingual books (ROR=95%, Non-ROR=86%). In

regards to the children's books they have at home, 56% of ROR parents said they have books in Spanish, 72% said they have books in English, and 39% have bilingual books.

Parent and Doctor Beliefs About the Impact of the ROR Program.

When ROR parents were asked if anything had changed in their home because of what they learned from the doctor at the ROR clinic, 14% of the parents mentioned reading and literacy changes. A parent of a 1 year old said, "I show [my child] the books and make up stories to go with the pictures, I was told to do that by the doctor." A parent of a 3 year old said, "I didn't know that children could learn to read very young; they taught me that here." And a parent of a 5 year old said, "[The doctors] helped me. They are the ones who initiated me reading to him. Before I didn't read to him, so I think this is going to help him [get ready for kindergarten]." ROR doctors feel that the program makes a difference; 3/5 mentioned that it gives families books, 2/5 said that it emphasizes the importance of reading, 1/5 said that it gets parents interested in reading to kids, and 1/5 that it changes the impression of what it means to read.

Parent and Doctor Suggestions for Improvement of ROR Program

Both ROR parents and ROR doctors were asked if they thought the ROR program could be improved in any way. While many ROR parents felt that the ROR clinic and doctors were doing a good job and should just continue with what they already do, some parents had suggestions for improving the program. For instance, some parents suggested widening the variety of books. They said they would like more books, a wider variety of books, books that have stories rather than just words and pictures, and durable cardboard books. One parent said, "Yes, maybe two every time. I want a variety, not the same every time. More pop up books that have activities so I can get him to work with me instead of just listening." One doctor

recognized the problem with the lack of variety of books, "big families have collected all the titles" so they end up receiving duplicates rather than expanding their libraries. Another parent said that she would appreciate receiving more books, "I don't have much money to spare, so it helps a lot when they give out these books and then they don't charge us for them." Other parent suggestions included ideas about additional advice and information they would like to hear from the doctors: suggestions for books to read, how to read aloud, how to increase children's interest in books and reading, advice on what is age appropriate, and more information about how children learn to read. One ROR parent said that it would be helpful to know, "what stage he's at, and if I'm pushing him too much, because I don't know where to start him at...that type of thing." Another parent said she would like to know, "what type of reading would be best for the children, books that make them think more, not so much fantasy, but something more real-stories, but something more real."

When ROR doctors were asked how the program might be improved, they stated that the program could be enhanced by having books in more languages (1/5), giving parents information on how to access more books (1/5), and giving parents a journal to record the child's literacy activities that could be shared with the doctor at the next visit (1/5). Doctors also expressed an interest in gaining additional training in the following topics: information on the stages of literacy development (3/5), information on appropriate books for stages of literacy development (1/5), studies on the effects of early literacy (1/5), and information on how parents can access more books (1/5).

Literacy and the Non-ROR clinics

Doctors and parents in the Non-ROR clinics were very interested in the idea of the clinic addressing reading and literacy issues. One Non-ROR doctor said, "I would like to be actively

involved in promoting literacy in both parents and children. There's so many ways we could use that once we get into that area." Non-ROR parents felt that their doctor's office could provide a library, give guidelines for where children should be at particular ages in terms of literacy development, and give general advice and information about reading that parents might not know. One Non-ROR parent of a 1 year old said, "If they had someone so that when one comes to the visits with children and if they finish the visit early, they'd have time to show them books. For example, in front they could have a place with books so that the kids could learn. I think if you just had the children's books and the children could go get the books on their own, and the ones who know how to read would read and those who don't would go to their mother, it's a form of learning a little more until they go to see the doctor." While one Non-ROR parent felt that reading and literacy issues should be left for schools, other Non-ROR parents said that they would like to hear their doctors give advice about what kinds of books and songs would help children learn, how to educate the kids and how to talk to them so that they learn, and other general advice.

Discussion

ROR Implementation

Results show that the majority of parents are receiving the books and the messages about reading from ROR doctors. ROR parents were more likely than Non-ROR parents to report that the doctor had told them to read with kids, to list literacy as one of the most important areas of advice the doctor had just told them, and to name the doctor as a source for literacy information. All ROR parents reported having children's books in their homes and 16% of the ROR parents stated that the ROR books were the only reading material in their home. Several ROR parents

mentioned specific changes in home literacy behaviors that took place because of the advice or suggestions the doctors made about reading. In these ways, the ROR program is a success because families who did not have children's books in their homes are now receiving books from their doctors, and families who did not know that children could benefit from booksharing at a young age have started to make reading and book sharing a habit.

We found that the Reach Out and Read clinic in this study could improve the implementation of the ROR program by enhancing ROR training for its doctors as well as by promoting consistency in book distribution and advice offered during the visits. Two out of five doctors interviewed said they had not received ROR training. Those who had attended the training session continued to rely on prior knowledge and instinct. The doctors were very interested in expanding their knowledge base by gaining access to research on literacy. Getting doctors to the training session and infusing that training session with updated educational research on early literacy are two ways to expand doctors' knowledge base in order that they may rely less on instinct as they give advice to parents.

We found that the kind of reading advice as well as book distribution practices, in regards to when and if a book was given to families during the visit, varied widely from doctor to doctor. Training could provide a standard procedure for doctors to follow. This could include an age appropriate model for literacy development, guidelines for guidance regarding language issues and literacy development, and strategies that would help doctors appropriately assess the home literacy practices of their clients.

A few ROR doctors did provide good book sharing advice for parents who may be illiterate. ROR training should continue to encourage this kind of sensitivity and make doctors aware of the book sharing strategies they can suggest to illiterate parents or to parents who may

not read the language that the books are provided in. However, ROR doctors reported that their knowledge of their clients' literacy abilities and practices was based upon impressions and guesses. Results showed discrepancies between parent report of literacy practices in the home and doctor impression of their clients' literacy practices in the home (e.g. Figure 1, How often does someone read to the child?). It is important that doctors not make assumptions about their clients' reading ability or literacy practices. ROR training could help doctors know what questions to ask families and what sorts of book handling behaviors to look for during the visit in order to more accurately ascertain a family's literacy practices, thereby allowing the doctor to provide more appropriate and targeted advice for that family in the area of literacy. The more a doctor knows about parents' literacy practices and beliefs, the better able a doctor will be to approach the subject of literacy in a sensitive and effective manner. For example, 55% of ROR parents felt that "knowing the alphabet" was the most important thing for a child who is learning to read, while ROR doctors felt that the most important things were "being read to" and "knowing the sounds of the letters". Being aware of this difference in approach to literacy readiness has implications for how doctors talk about literacy with families. Doctors can reinforce the importance of what parents already consider important as well as mention the benefits of book sharing and book handling.

Social Contract

Results suggest that parents participating in the ROR program have adopted an expanded view of the patient/doctor social contract. ROR and Non-ROR parents were equally likely to expect their doctors to talk about nutrition, a subject that would be included in the traditional patient/doctor social contract. However, ROR parents were more likely than Non-ROR parents to expect their doctor to talk about reading, a topic not included in the traditional social contract.

Likewise, ROR parents were more likely than Non-ROR parents to be of the opinion that it is ok for doctors to address the issue of literacy during well child check ups. There is evidence that a few ROR parents did not start off with the expanded social contract view, and even though they were surprised to hear their doctor talk about reading they were receptive to those messages about literacy.

Knowing that it is possible to expand the social contract leads to questions of how to best utilize the expanded social contract. For doctors to be encouraging and influential in their clients' literacy beliefs and behaviors it is important to close the gap that miscommunication and misperceptions can cause. Parents' report of literacy activities in the home suggested that families are more literacy-conscious and proactive than doctors perceive the families to be. Doctors' ratings of how frequently the child was read to in the home were much lower than families reported. Adjusting misperceptions such as these can enhance mutual understanding between parent and doctor, increase trust, and facilitate better communication and potentially increase parents' receptiveness to the doctors' suggestions and advice on literacy issues.

ROR effectiveness

The books that parents receive at well child check ups at the ROR clinic are being used by the patients and their extended families. Ninety percent of ROR parents said that the reading they do with their child includes the ROR books and 78% of ROR parents said that these ROR books are stored where their child has access to them. It is important to note that 16% of ROR parents said that the ROR books were the only books they had in their home. When the ROR program is implemented and the books are distributed to families, it appears to be a very effective program in regards to book use and book sharing in the families receiving the intervention.

Several parents mentioned that their reading practices in the home had changed because of what the ROR doctors had mentioned during the well child check ups. Some examples of what parents said had changed include reading with their children from a younger age, making up stories to go with the pictures, reading during the day rather than just at night, and 2 out of the 21 parents said that they started reading with their children because of what they had heard from the doctors at the ROR clinic. Nearly 10% of parents who were interviewed were not reading with their children but started reading with their children because of the ROR program. That is evidence of the impact the ROR program has had with some families and suggests that the clinics who participate in the ROR program have introduced or reinforced to parents the importance of reading and book sharing with children from an early age.

Limitations of This Study

This study has some limitations that should be noted. The study was cross-sectional and did not measure literacy practices pre- and post-treatment. Although the control group was equivalent to the experimental group in educational level and self-rated language and literacy skills, it was a non-randomized study and therefore there was no true control group to measure the intervention's effects. The number of families interviewed provided rich qualitative data but were not numerous enough to provide substantial statistical power in the analysis. The low number of doctors interviewed provided rich qualitative data but did not allow for statistical analysis. Additionally, home literacy practices and well child check up visits were not observed as part of the study and therefore, our results are based on parent and doctor self-report of literacy beliefs, behaviors, and advice.

Implications For Future Research and Program Improvement

As other studies have found (Golova et al., 1999; High et al., 1998; Needlman et al., 1991; Sanders, 2000; Snow et al., 1998), our study suggests that parents are receptive to literacy-related advice and encouragement coming from their children's doctors. We also found that some families changed their literacy behaviors because of what messages they heard at the doctor's office. The social contract appears to be expanded for parents who took their children to the Reach Out and Read clinic. Within the expanded social contract, doctors are exploring a new area in which their patients view them as a reliable source of information and encouragement. This suggests a need for increased responsibility and knowledge of the new area, in this case literacy. It is important for doctors' advice and suggestions around literacy to be based on research and training, just as it is in other areas. This will not only improve the quality of advice offered and improve the professional protocol of the program Reach Out and Read, but will also improve communication with parents by building on families' current literacy practices and beliefs.

Reach Out and Read's efforts to promote emergent literacy could be greatly enhanced by making an effort to understand what literacy skills are already important to parents and then using the expanded social contract to provide parents with the resources and support that would help them realize their own literacy goals for their children. For example, parents seem to want to teach Spanish syllables "ma, me, mi, mo, mu" to their children, and doctors could offer books or suggestions that would support their efforts. Also, parents reported telling stories and singing with their children, both of which are important language and literacy activities. Doctors should reinforce to parents that these are positive and important activities and that they should continue these activities even as they incorporate booksharing into their repertoire of literacy activities with their child.

Parents expressed that they would like to receive Spanish/English bilingual books and different types of books. Some of the early books distributed in this particular ROR clinic consisted of pictures of objects labeled with one word. It seems that rich and complex illustrations would better lend themselves to the suggestion doctors make to parents, to talk about the pictures without necessarily reading the words. In order to prevent families from getting duplicates of the titles, and in order to ensure that families receive a book in the desired language a Reach Out and Read clinic might expand their selection of titles as well as provide a board that features the covers of the books so that the parents could select the desired book.

It is also important for doctors to be open to alternatives that might be more feasible for working parents. Suggestions about literacy that are based on a middle class parenting model are not necessarily relevant for all parents. For example, one doctor assumed that parents have ample time and opportunity for literacy activities with their child when he stated,"The child is at home around the parents so much more and the parents can start so much earlier...and the children aren't going to school at 1 year of age when the parents have so much more opportunity to introduce them to books themselves." The reality is that with limited time and resources along with numerous responsibilities and jobs, parents may need to focus on other priorities (Lareau, 1989) and may find it prohibitive to read to their child regularly. The application of middle class models of parenting and educational values to other populations is not an effective way of serving those populations (Baugh, 1999; Heath, 1982; Valdés, 1996). However, the Reach Out and Read program could increase focus on how other family members such as older siblings or grandparents can participate in a child's literacy development. Many ROR parents identified their doctor as a source for information on literacy. The ROR clinic can capitalize on this even more by providing resources such as easy to decipher schedules and maps for local library hours

and read aloud times and printed material such as *fotonovelas* (comic strip-type information pamphlet) that could be a follow-up to and further develop the suggestions made by the doctor during the short visit.

Reach Out and Read's intervention could be thought of in terms of facilitation. Under this relationship model, families would not be approached as though they have a deficit. Instead, doctors would appreciate the opportunity to assist families in meeting their goals and desires regarding their children's cognitive, language, and literacy development. Centered on what families are doing right and what families want to do for their children, doctors can be a resource to encourage, remind and inform families of good literacy practices.

Future studies that focus on the assets that these families can bring to the table in regards to their children's literacy development will help the Reach Out and Read program identify what can be built upon and what literacy messages and resources would be best received by participating families. Learning about alternatives to middle class models of literacy could promote a better understanding between parent and pediatrician. This could have a tremendous impact on how doctors approach the subject of literacy with parents and ultimately, how relevant and effective that message is in the lives of the families Reach Out and Read serves. Considering the growing number of Reach Out and Read sites and the increasing numbers of families and children being reached by the program, it is critical to continue to evaluate how this program can be made more effective.

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Table 1

Parent Characteristics for ROR and Non-ROR Participants

	ROR (n=22)	Non-ROR (n=15)
Mother of child	85%	93%
Mean years of education	10.6 years	9.2 years
Received other training	50%	33%
Reads very well	52%	40%
Writes very well	43%	40%

* $p < .05$

Table 2

Percent of Parents Who Expected the Doctor to Give Advice About Reading or Nutrition

	ROR (n=22)	Non-ROR (n=15)	χ^2	Phi	Sig.
Expect reading	63%	31%	3.24	.318	.072
Expect nutrition	53%	47%	.119	.059	.730

Table 3

Parents Stating That It Is OK for Doctors to Give Advice on Reading

	ROR (n=22)	Non-ROR (n=15)	χ^2	Phi	Sig.
Yes it is ok.	90%	67%	2.92	.289	.088

Table 4

Most Important Areas of Doctors' Advice According to ROR and Non-ROR Parents

	ROR (n=22)	Non-ROR (n=15)	χ^2	Phi	Sig.
Literacy	15%	0%	2.30	.260	.129
Developmental	20%	14%	.185	.074	.667
Safety	21%	30%	.311	.096	.577
Health	60%	50%	.334	.099	.563

Table 5

Where Parents Receive Literacy Information

	ROR (n=22)	Non-ROR (n=15)	χ^2	Phi	Sig.
Doctor	20%	0%	2.74	.293	.098
Teacher	55%	41%	.533	.129	.465

Table 6

Parents' Report of What Doctors Have Told Parents About Reading

	ROR (n=22)	Non-ROR (n=15)	χ^2	Phi	Sig.
Read w/ kids	60%	8%	9.03	.523	.003
Nothing	5%	77%	18.34	-.745	.000

Table 7

Skills a Child Needs Upon Entering Kindergarten, According to Parents and Doctors

	Parents		Doctors	
	ROR (n=22)	NR (n=15)	ROR (n=5)	NR (n=2)
ABCs/letters	53%	27%	5/5	2/2
read a little	32%	13%	1/5	-
write their name	-	-	1/5	-
social/communication	32%	13%	1/5	-
other oral language skills	16%	-	-	1/2
count/numbers	26%	27%	2/5	2/2
colors	42%	20%	-	-
how to hold a pencil	11%	40%	-	-
book handling	-	-	2/5	-

Table 8

Parents' Report of Children's Activities At Home

	ROR (n=17)	Non-ROR (n=15)	χ^2	Phi	Sig.
Reads books	29%	7%	2.71	.291	.100
Educational activity	29%	33%	.057	-.042	.811
Plays	71%	80%	.376	-.108	.539
Watches TV	24%	20%	.058	.043	.810

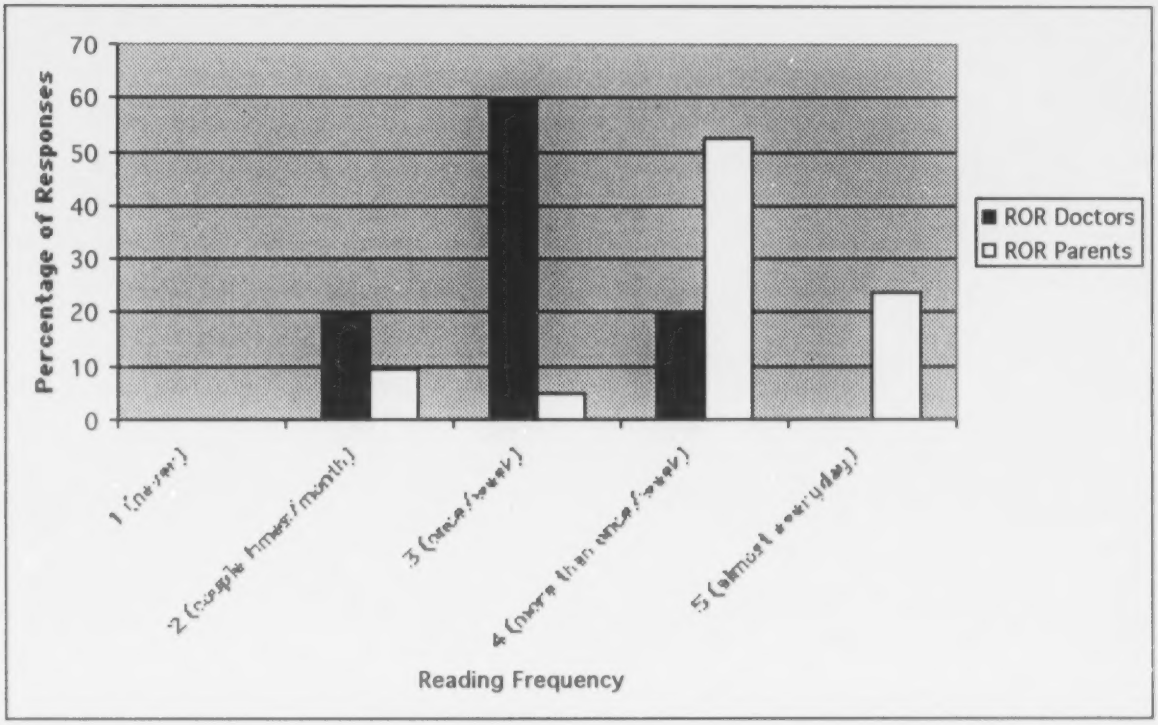
Table 9

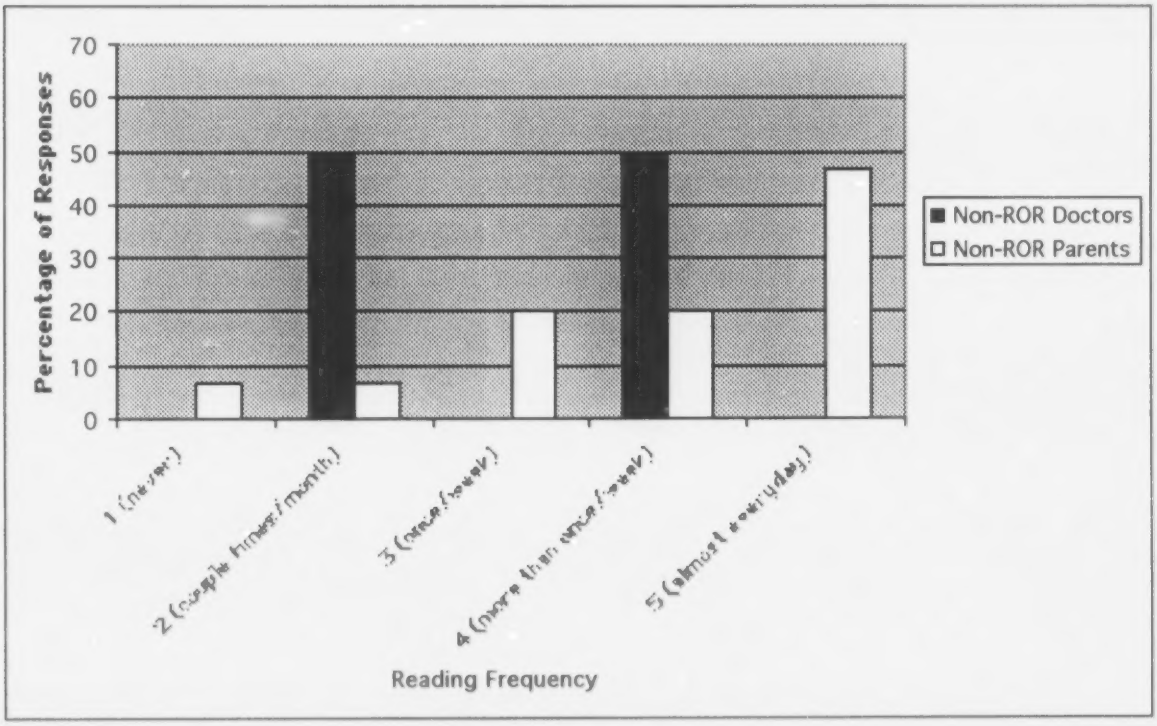
Percent of Parents Who Report Having Children's Books at Home

	ROR (n=19)	Non-ROR (n=15)	χ^2	Phi	Sig.
Yes	100%	87%	2.692	.281	.101

Figure Caption

Figure 1. ROR and Non-ROR Doctor and Parent Ratings of How Often Someone at Home Reads with the Child





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